Table 6
Truck Traffic
ADT and Annual ADT calculated to represent an average day in August

Terminal	Trucks		
	August Average Daily Traffic (ADT)	Average Annual Daily Traffic (AADT)	Adjusted Yearly Traffic
1	432	404	147,460
2	228	213	77,745
3	284	266	97,090
4	295	276	100,740
5	104	97	35,405
6	276	257	94,170
Total	1,619	1,513	552,610

Source: The Corradino Group of Michigan, Inc.
(Counts exclude noon to 1 p.m.)

The number of truck trips per lift for the terminals is shown in Table 7. The lift estimates were provided by the railroads. The average is 1.59 truck movements per lift with a range of 1.17 to 2.46. This range reflects the different types of intermodal activity.

Table 7
Relationship of Lifts to Truck Movements

Terminal	Lifts in 2002	Trucks in 2002	Ratio
1	60,000	147,500	2.46
2	55,000	77,750	1.41
3	83,000	97,050	1.17
4	77,000	100,750	1.31
5	25,000	35,500	1.42
6	48,000	94,000	1.96
Total	348,000	552,550	1.59

Source: AVT and The Corradino Group of Michigan, Inc.

As a result of these data, which are lower than the ratio of three truck-trips-per-lift used in the DIFT Feasibility Study, it is expected that the daily volume of truck activity at a consolidated intermodal terminal will be significantly reduced for the analysis of issues needed to prepare the Environmental Impact Statement, as compared to 16,000 trucks per day used in the earlier Feasibility Study work (8,000 inbound and 8,000 outbound). The updated approach to preparing the EIS will involve further refinements in these forecasts through the application of a commodity flow model.

Greenfield Site

The proposed consolidated concept at the Livernois-Junction Yard lies at a railroad point called West Detroit, where each of the four Class I railroads serving the Greater Detroit Area touch. Canadian National (CN) and Norfolk Southern (NS) reach West Detroit over their own lines while

Canadian Pacific (CP) and CSX reach it either with trackage rights (CP) or ownership of Conrail (CSX). There is no other location in the Greater Detroit Area or the state of Michigan where this occurs.

Each of the railroads reaches Detroit over a network of individually-owned rail lines. It should be noted that there are locations along those lines where tracts of largely undeveloped land, otherwise known as "greenfields," might be available for the development. But only one railroad would be able to reach any such new intermodal terminal location.

Another issue with a "greenfield" site is that those undeveloped properties tend to be well removed from the shippers that they will be serving. This results in increased distance/time to haul goods (drayage) and contributes to highway congestion creating a less efficient intermodal transportation system, which is counter to the purpose of this project. Of special concern is that large volumes of truck traffic may be forced to utilize a single highway route to reach the site. A central location, such as the Livernois-Junction Yard, or multiple terminal locations, result in a dispersal of traffic over several alternate corridors involving non-residential/local roads. "Greenfield" developments may also contribute to urban sprawl and require new highway, utility and other infrastructure. Conversely, for the most part, the existing intermodal facilities, and the proposed consolidated terminal at the Livernois-Junction Yard, are able to use the established infrastructure that is already in place and, in some cases, underutilized.

The earlier Mercer studies examined possible "greenfield" sites. One, Willow Run, while having several attributes, was served by only a single railroad at the time, Conrail. Since the sale of the Conrail assets, Norfolk Southern now controls access to the location. Nevertheless, a "greenfield" site as a substitute for the consolidated terminal is much less attractive because of rail, highway and land development issues. For the purposes of a consolidated terminal, a "greenfield" site is both unworkable as well as unattainable and has been dismissed as a prudent and feasible alternative.

Other Sites

It is important in forecasting future conditions to recognize trends of the past. Since the 1980s, railroads have consolidated their intermodal service networks into fewer, larger hub terminals as they saw an opportunity to consolidate enough volume in one location to justify lift machines and other expensive equipment/facilities. Small facilities have been eliminated. Such is the current situation where the smaller Norfolk Southern intermodal terminal Oakwood has been shifted/ consolidated at the Livernois-Junction Yard. This location, and others like Highland Park, do not lend themselves to productive intermodal operations. On the other hand, an existing terminal like Delray, Triple Crown and even Willow Run may be used some time in the future if adequate capacity is not available on a timely basis at the Livernois-Junction Yard. But, even if all three terminals stay in use, the added capacity still does not address the demand expected in the future. In any case, the EIS will be responsive to the dynamics in the intermodal businesses in the Southeast Michigan region.

4.4 Related/Nearby Transportation Improvement Proposals

A number of projects in the region are related, to some extent, to the intermodal terminals as each could affect either truck and/or rail traffic to one or more of them (Figure 11):

Figure 11
Concept Depiction of
Major Transportation Projects
Focused on Southeast Michigan

- I-75: proposed to have a lane added and reconstructed between 8 Mile Road and M-59.
- I-375 and Jefferson Avenue in downtown Detroit: planned for a major reconstruction with access modifications.
- I-94: proposed to have a lane added in each direction between I-96 and Connor, north of Downtown.
- The Ambassador Bridge: proposed to have improved access at/with I-75 and I-96.
- A new border crossing: being studied with candidate corridors including a crossing from the Southwest Detroit area to Windsor, Ontario, Canada.
- Existing CP tunnel to Canada: planned by a private venture to be reworked for truck traffic with a new rail tunnel built next to it. The existing tunnel ends behind the Michigan Central Depot.
- "Speedlink" rapid transit: under consideration in the Woodward and Grand River corridors.
- High-speed rail passenger service: under consideration between Chicago and Detroit.
- Commuter rail service: under consideration between Ann Arbor (and possibly Lansing) and Detroit.
- Light rail passenger service: being studied between the Detroit Metropolitan Airport and downtown Detroit.

4.5 Key Environmental Issues

The Detroit Intermodal Freight Terminal Project EIS is being conducted by the Michigan Department of Transportation. The EIS will focus on three alternatives, including No Action. The EIS will pay particular attention to the following environmental issues, in alphabetical order:

- Acquisition/Relocation – The expansion of each terminal site may relocate residences and businesses.
- Air Quality – Existing and future truck traffic and rail with and without the terminal expansion will be examined to determine changes in air quality for established pollutant limits. The issue of air toxics will be addressed qualitatively using the most recent information from US EPA and other recognized sources.
- Cultural Resources – Surveys are underway in the areas around the fringe of each terminal, primarily for historic structures. Archeological resources have largely been disturbed by past development. Nevertheless, on-terminal reconnaissance will be conducted.
- Economic Impacts – The effects on the economic viability of the local community and on regional jobs and income will be analyzed.

- Environmental Justice – For each terminal, including its potential improvements, an analysis will be conducted to determine whether there are disproportionate impacts on local minority or low-income residents.

- Hazardous Waste/Materials – The lands subject to potential acquisition for each terminal have largely been in industrial uses that have the potential to contaminate soils and/or groundwater. Literature and field investigations will be conducted to determine the extent and seriousness of any contamination and if it cannot be avoided, what, if any, remediation might be necessary to redevelop the land.

- Indirect and Cumulative Impacts – Historic aerial photography and planning documents will be used to gauge effects removed in time and/or distance from the terminal areas potentially affected by this project. The following impacts will be determined:

    - Mobility
        - Roadway travel changes induced by creating the DIFT
        - Changes in regional crash experience
        - Number of locations affected by above-normal crash experience
    - Energy Changes
        - Right-of-way and construction costs possibly incurred
    - Land Use
        - Conversion to different uses
    - Air Quality
        - Localized carbon monoxide air emissions
        - Regional air quality effect
    - Cultural Resources
        - Change in historic/archaeologic resources
        - Change in parklands
        - Change in noise exposure at sensitive receptors
    - Community
        - Number of residential units and business properties potentially affected
        - Residential properties, churches and schools with possible change in noise exposure
        - Effects on community cohesion
        - Potential environmental justice issues
        - Change in economic vitality
        - Change in aesthetics
    - Water
        - Water quantity and quality as affected by changes in drainage
        - Quantity and quality of groundwater
        - Quantity and quality of wetlands affected

- Noise – Changes in train activity on the site and the paths of trucks to and from each terminal require noise prediction and comparison to established noise abatement criteria to determine the reasonableness and feasibility of noise walls or berms and their locations.

- Lighting – "Light pollution" will be addressed.

- Parklands, particularly St. Hedwig Playground near the Livernois-Junction Yard and the State Fairgrounds near the CN Moterm terminal, will be studied to determine their status as it relates to federal/state laws which protect public recreation areas, and any necessary mitigation defined. Indirect effects on other public recreation areas and parks will be noted.

- Social Impacts/Community Cohesion – Local access could change if each terminal is expanded. The extent to which additional traffic and/or changed traffic patterns cause the local community around each terminal to realize impacts on its social fabric/cohesion will be documented.

- Water Quality
  - Water quantity and quality as affected by changes in drainage
  - Quantity and quality of groundwater
  - Quantity and quality of wetlands affected.

As stated earlier, the purpose of the EIS is to select an alternative that best meets the goal of the project while identifying the impacts. The goal is to develop a regional facility or facilities with enough capacity to handle current and future intermodal freight shipments needed by businesses, industries and the U.S. military and to provide efficient interconnectivity of intermodal operations to reduce time, monetary costs, and congestion to support the economic competitiveness of Southeastern Michigan. The study will also identify impacts and benefits of all alternatives. Where negative impacts are identified, ways will be examined to avoid causing them or mitigating them. But, only when impacts are absolutely unacceptable, or the difference between alternatives extremely lop-sided without a commensurate gain in benefits, would a lesser alternative, from the standpoint of meeting the project's need, be accepted.

5. Conclusion

The purpose of the Detroit Intermodal Freight Terminal project is to support the economic competitiveness of southeastern Michigan and the state by improving freight transportation opportunities and efficiencies for business, industry and the military. The goal is to ensure that Southeast Michigan has a facility – or facilities – with sufficient capacity to provide for existing and future intermodal demand.

Detroit is now one of the top ten intermodal markets in the nation. Even more intermodal traffic could flow through Detroit if the capacity were provided and a plan were developed for a better-connected railroad and highway freight system. Finally, the Detroit market has characteristics that could cause intermodal traffic to grow faster than the national average, like its role as the automotive capital of the world and strategic position on the Canadian border.

The Michigan Department of Transportation is engaged in the DIFT project to ensure that the businesses and industries involved in the intermodal freight transportation segment of the economy continue to have access to the market (customers, workers, shippers, and the like). This, in turn, ensures maintenance of the national defense as well as a high quality of life for the region's citizens including:

- Providing the necessary infrastructure to support current and future distribution needs of industry, particularly auto manufacturing, the state's largest industry, and other Southeast Michigan businesses.

- Achieving a competitive advantage both regionally and nationally by focusing federal, state, local and private (i.e., railroad and other private entities) investments and resources on an "intermodal" strategy.

- Stimulating economic development and redevelopment throughout Southeast Michigan through job creation, increasing the tax base, and lowering the cost of consumer goods.

- Reducing truck "vehicle miles traveled," which saves lives, reduces pollution and conserves highway capacity.

- Removing intermodal terminal-related truck traffic from the local streets of the nearby neighborhoods so that quality of life issues, such as air pollution and safety, are addressed.

- Buffering the intermodal facility from nearby neighborhoods through improvements that reduce noise and use trees, vegetation and other enhancements to improve the terminal's exterior appearance.

The project is needed to handle the increasing intermodal volumes which have grown from 283,000 lifts in 1992 to 348,000 lifts in 2002 (down from a high of about 400,000 in 1998 largely due to economic and security risk conditions). The capacity of the existing intermodal terminals in the region is about 360,000 annual lifts. The forecast demand for 2025, if no extraordinarily positive trends occur, would range from about 600,000 to 800,000 annual lifts.

Alternative 2 would allow the existing terminals to expand with federal funding assistance/oversight. In this scenario, it is expected regional intermodal freight, to be divided among the railroads, will range up to 900,000 lifts per year. The possible direction of expansion and the additional area around each terminal needed to handle this activity is now being developed in the ongoing environmental/engineering analyses (Figures 12, 13, 14, and 15). This new work will allow the impact assessment now underway to be as focused as it has been to date on the consolidation option – Alternative 3.

Alternative 3 will likely be associated with even greater regional intermodal demand (up to 1.2 million lifts per year in 2025) than the two other options because of expected time and cost efficiencies of consolidation. The current concept of the layout of a consolidated terminal at the Livernois-Junction Yard can accommodate this demand in the year 2025. Further refinements of this concept will take place during the EIS.